

reproduce content media such as a digital versatile disc (DVD), or may connect a network to reproduce streaming content from the content server. A camera **14** is a stereo camera, and photographs the user sitting in front of a display apparatus **11** which is a television at a predetermined cycle, and provides a photographed image to the information processing apparatus **10**.

[0018] The object control system **1** controls an action of the robot **20** that is an actual object, by deducing the feeling from the reaction of the user. Basically, the action of the robot **20**, which supports the game play of the user, is controlled so as to be pleased with the user for expressing sympathy for the user, and to provide the user with the joint viewing experience. Note that the object control system **1** of the embodiment manages the internal states of the robot **20** and the user. For example, if the robot **20**'s popularity rating for the user is low, the object control system **1** controls the action so as not to be pleased (no sympathy) together even when the user is pleased. Note that, in a case in which the robot **20** virtually participates in the game as an opponent player of the user, the action may be controlled so as to be sad conversely when the user is pleased. Basically, the robot **20** expresses feeling by contents of the speech indicating feeling, but may express feeling by moving its body.

[0019] FIG. 3 illustrates a diagram of an input/output system of the robot **20**. A control unit **30** is a main processor that processes and outputs various data such as audio data and sensor data, and an instruction. A microphone **22** collects surrounding audio and converts it into an audio signal, and a camera **24** photographs the surrounding and acquires a photographed image. A storage unit **26** temporarily stores data and instructions processed by the control unit **30**. A communication unit **32** transmits data being output from the control unit **30** to the external information processing apparatus **10** by wireless communication via an antenna. The communication unit **32** also receives the audio data and drive data from the information processing apparatus **10** by wireless communication via the antenna, and outputs the data to the control unit **30**.

[0020] When receiving the audio data, the control unit **30** provides the audio to a speaker **36** and causes the speaker **36** to output the audio. When receiving the drive data, the control unit **30** causes a motor of a drive mechanism **34** to be rotated. The drive mechanism **34** includes the motor incorporated in the joint portion that is a movable part of the robot **20** and a link mechanism for connecting the motors. The arms, the leg, the neck, etc. of the robot **20** are moved by driving the motor.

[0021] FIG. 4 illustrates a diagram of a configuration of the object control system that controls the object. The object control system **1** includes a feeling deduction unit **100**, an internal state management unit **110**, an action management unit **120**, an internal state storage unit **130**, and an output processing unit **140**. The internal state storage unit **130** has an object internal state storage unit **132** and a user internal state storage unit **134**. The feeling deduction unit **100** includes a first feeling deduction unit **102**, a second feeling deduction unit **104**, and a third feeling deduction unit **106**, and performs a process of deducing feelings with these three systems.

[0022] The object control system **1** also includes the camera **14** for photographing the user, a biological sensor **15** for detecting biological information of the user, a motion sensor **16** for detecting a motion of the user, a microphone

17 for acquiring audio signals around the user, and an event detection unit **40** for detecting occurrence of an event.

[0023] In FIG. 4, each element, being described as a functional block that performs various processing, may include, a circuit block, a memory, other large-scale integrated circuits (LSIs) in terms of hardware, and may be achieved by a program loaded into the memory, etc., in terms of software. Therefore, it is understood by the person skilled in the art that these functional blocks may be achieved in various forms by only hardware, only software, or a combination thereof, and is not limited to any of them.

[0024] In FIG. 4, each configuration of the feeling deduction unit **100**, the internal state management unit **110**, the action management unit **120**, the internal state storage unit **130**, and the output processing unit **140** is provided in the information processing apparatus **10**, and the Information processing apparatus **10** may control the action of the robot **20**. Further, each configuration of the feeling deduction unit **100**, the internal state management unit **110**, the action management unit **120**, the internal state storage unit **130**, and the output processing unit **140** is provided in the robot **20**, and the robot **20** may control its own action autonomously. In this case, the robot **20** includes an autonomous robot and may act alone. In addition, a part of the feeling deduction unit **100**, the internal state management unit **110**, the action management unit **120**, the internal state storage unit **130**, and the output processing unit **140** may be provided in the information processing apparatus **10**, and the rest may be provided in the robot **20**. In this case, the information processing apparatus **10** and the robot **20** cooperate with each other and operate to control the action of the robot **20**.

[0025] Thus, the object control system **1** illustrated in FIG. 4 may be achieved in various manners. In a case in which each of the above-described configurations is provided in the information processing apparatus **10**, it is sufficient that the audio signal acquired by the microphone **22** of the robot **20** and the photographed image that is photographed by the camera **24** may be transmitted to the information processing apparatus **10** for use in processing in the information processing apparatus **10**. Further, in a case in which each of the above-described configurations is provided in the robot **20**, it is sufficient that the audio signal acquired by the microphone **17** connected to the information processing apparatus **10** and the photographed image that is photographed by the camera **14** may be transmitted to the robot **20** for use in processing in the robot **20**. In addition, it is sufficient that the audio signal or the photographed image may be acquired by a microphone or a camera other than illustrated and may be provided to the information processing apparatus **10** or the robot **20**. In the following, for convenience of explanation, as a representative, the camera **14** photographs the user, and the microphone **17** collects the user's utterance and converts it into the audio signal.

[0026] The feeling deduction unit **100** deduces the user's feeling on the basis of the outputs of various sensors and data from an external server. The feeling deduction unit **100** deduces the user's feeling by deriving an evaluation value for each of feeling indexes such as joy, anger, love, and surprise. In the embodiment, the user's feeling is expressed by a simple model, and the feeling deduction unit **100** deduces the user's feeling from three evaluation values: good feeling (positive feeling), bad feeling (negative feeling), and neither good nor bad feeling (neutral feeling). Note that in a practical use, each of "positive" and "negative" may